

REMARKS

Claims 1-28 remain in prosecution. A one month extension of time and appropriate fee are enclosed with this amendment.

Claims 1-21 and 23-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Meredith et al.* (U.S. Pat. No. 5,701,596) in view of *Dam et al.* (U.S. Publication No. 20010016504A1). Claim 22 was rejected under 35 U.S.C. 103(a) as being unpatentable over *Meredith et al.* (U.S. Pat. No. 5,701,596) in view of *Dam et al.* (U.S. Publication No. 20010016504A1) and further in view of *Vaisanen et al.* U. S. Pat. No. 6,450,443). Claim 26 has been amended. Based on the amendments and arguments herein, Applicants respectfully submit that claims 1-28 are in condition for allowance.

Claim 1 requires "a number, N, of wireless front end units," "a number, N, of antennae," and "a switching arrangement connected between the N wireless front end units and the N antennae for permitting any of the wireless front end units to be switched into connection with any of the antennae while also maintaining the remaining wireless front end units connected to respective ones of the remaining antennae." As explained below, none of the references, when taken alone or in combination, teaches or even suggests these limitations.

Specifically, in reference to *Meredith*, the Office Action states that the "N number of antennas can be equal to the number of M radios ( $M = N$ )" and cites column 10, lines 16-33 as a reference. Applicants respectfully disagree with the Office Action. Column 10, lines 16-33 of *Meredith*, as cited by the Office Action, teach 60 radios and 16 antennae. Thus, *Meredith* fails to specifically teach "a number, N, of wireless front end units" and "a number, N, of antennae," as recited by claim 1. The specific switching arrangement of claim 1 between N wireless front end units and N antennae is significant because the switching arrangement is responsible for ensuring that each antenna is connected to a front end unit and each front end unit is connected to an antenna. In one embodiment of the invention, this switching arrangement provides for an improvement in diversity transmission or reception quality. The switching arrangements taught in the references, if implemented in systems having N antennae and N wireless front end units, are not capable of such a function (as further explained below).

Applicants agree with the Office Action that "Meredith does not teach permitting any of the wireless front end units to be switched into connection with any of the antennas while also maintaining the remaining wireless front end units connected to respective ones of the remaining antennas." However, Applicants respectfully disagree with the Office Action that DAM teaches "permitting any of the wireless front end units to be switched into connection with any of the antennas while also maintaining the remaining wireless front end units connected to respective ones of the remaining antennas."

Instead, DAM teaches a system having any number of elements in an antenna array 460 as well as sector antennas 450, each of which can be connected to one or more respective radio transmitters or receivers through a switching arrangement containing switches 480 and 490 (paragraph 33, lines 6-11). Notwithstanding the fact that DAM obviously teaches away from the N number of antennae and N number of wireless front end units specifically required by claim 1, this teaching does not suggest that the connection between "the remaining wireless front end units" and "the respective ones of the remaining antennae" are necessarily maintained, as recited by claim 1. For example, if the antenna array 460/sector antennas 450 comprise 10 antennas and the transceiver unit 400 comprises 5 receivers/transmitters, then any of the 10 antennas may be connected to one of the 5 receivers/transmitters, thus leaving 4 of the remaining receivers/transceivers unconnected.

Conversely, if a sufficient number of elements exist in antenna array 460/sector antennas 450 such that at least one antenna is connected to each receiver or transmitter, then the switching arrangement is not concerned with the efficient allocation of antennas to transmitters/receiver. Accordingly, the switching arrangement of DAM may not need to manipulate various connections between N front end units and N antennas to ensure the maintenance of connections of "remaining wireless front end units" to "respective ones of the remaining antennae," as recited by claim 1, mainly since DAM is not concerned with TX/RX diversity as in the present invention. DAM is mainly concerned with the selection of the best beam to use, etc. (see discussion relating to FIG. 9) from the antenna array 460 which would seem to point to one of ordinary skill in the art away from "maintaining the remaining wireless front end units connected to respective ones of the remaining antennae" as required by claim 1. Thus, the switching

arrangement of DAM is different than the switching arrangement recited in claim 1.

In either case, as demonstrated above, DAM does not teach “a switching arrangement connected between the N wireless front end units and the N antennae for permitting any of the wireless front end units to be switched into connection with any of the antennae while also maintaining the remaining wireless front end units connected to respective ones of the remaining antennae in order to optimize diversity transmission or reception quality,” as required by claim 1. In fact, the combination of Meredith and DAM does not teach or even suggest any of the limitations of claim 1. At least for these reasons, claim 1 and all claims depending on claim 1 are allowable.

Amended claim 26 is similar to claim 1 and requires “switching any one of N wireless front end units into connection with any one of N antennae” and “simultaneously maintaining the remaining wireless front end units connected to respective ones of the remaining antennae.” As explained above, none of the references, when taken alone or in combination, teaches or suggests these limitations. At least for this reason, claim 26 and all claims that depend on claim 26 are allowable.

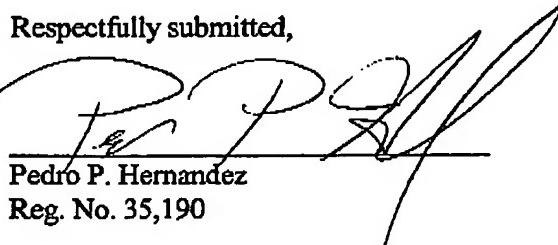
Applicants respectfully submit that the present application is in condition for allowance. If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 20-0668, Texas Instruments, Inc.

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